

An Outline of New Electrogalvanizing Line (KM-RCEL)*

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A new electrogalvanizing line started its operation in January, 1982 at Chiba Works, Kawasaki Steel Corporation. Named KM-RCEL (Kawatetsu Multipurpose Radial Cell Electroplating Line), the new line has since been achieving successful production.

For the plating process, "CAROSEL" developed by U.S. Steel was selected for the sake of its technical potentiality and economic advantage. KM-RCEL is the world's first line of hot-dip coating utilizing U.S. Steel's "CAROSEL" process.

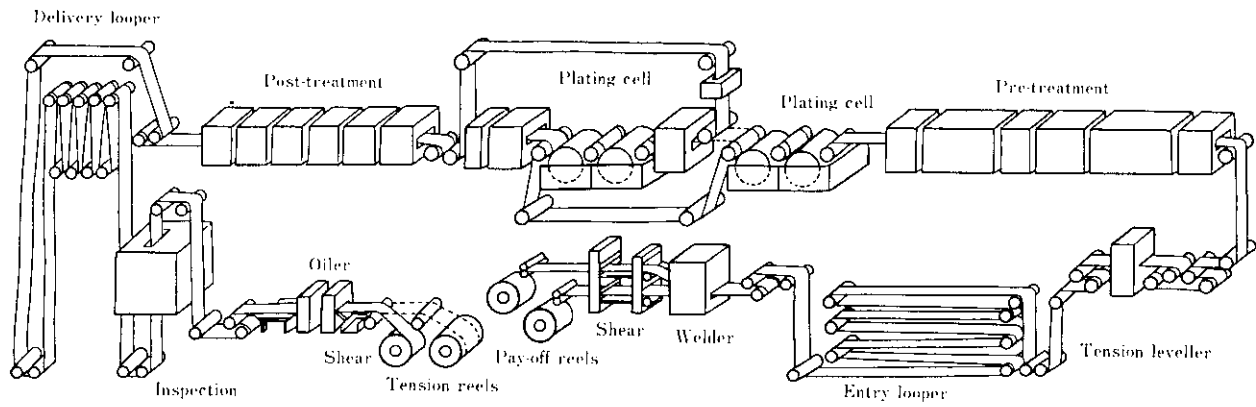
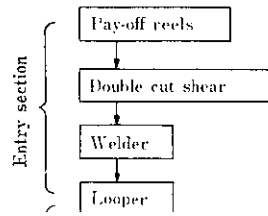


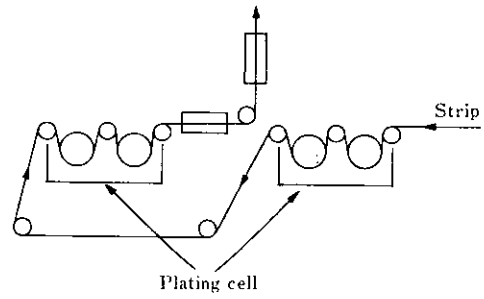
Fig. 1 Schematic diagram of KM-RCEL



2.3 Entry Section

A material coil is brought into the coil skid by the overhead travelling crane and loaded onto the pay-off reel automatically. The unwound portion of the leading end is levelled by the pay-off leveller to eliminate coil set, with off-gage portion automatically cut off by the double-cut shear and is sent to the welder.

The trailing end of the preceding coil automatically slows down and comes to a stop at a preset level of coil layers or at any off-gage portion which is cut off



(a) Both-side coating

cutting, coil unloading and weighing, are carried out



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one-side heavy plating for automobile use. The system

to the studies on quality control of plated surface, selection of chemicals and treating conditions suited for highly reactive plated surfaces and methods of maintaining treatment conditions.

(5) Duplex coating

The production of duplex coating having a different metal coating on each side is suited for the line with the sequential plating system. In order to achieve this, many improvements were necessary

the operation of both sections in one view from the main pulpit, as shown in **Photo 3**.

- (2) The major operation and control functions are centralized at the main pulpit with a testing and analysis laboratory located also nearby.
- (3) The center section is provided with space for future expansion of plating capacity and post-treatment facilities.

4.2 Automatic Switching of Chemical Treatments

solution supply system, intermediate rinsing and a surface wetting system.

Some of the wide applications developed for CAROSEL at Kawasaki Steel have been described above. In considering general trends in plating tech-

Since a variety of chemical treatments are made in a single pass in the conventional system change-over of these treatments required extremely troublesome work. In KM-RCEL, On/Off control of pumps, valves and rolls are preset, so that any treatment can be selected

in Fig. 6. Most solution controls are performed

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surface is shown in Fig. 5. The zinc deposition in

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by the hydrogen quantitative feeding method.

(a) Thin chromate treatment

Colorless film with a smaller amount of

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